IN THE CLAIMS

Please cancel claims 5, 11-12 and 14 without prejudice or disclaimer, amend claims 1-3, 6, 10, 13, 15-17, 19-20 and 24, and add a new claim 25 as follows:

1. (Currently Amended) An optical module, comprising:

a substrate;

a semiconductor laser;

a beam splitter which divided a light emitted from said semiconductor laser into a transmitted light and a reflected light;

an etalon through which the transmitted light from said beam splitter is transmitted, at least said semiconductor laser and said etalon being disposed on and in contact with said substrate;

a first optical detection means which receive the light transmitted through said etalon,

a second optical detection means which receive the reflected light from said beam splitter;

a temperature control means for controlling a temperature of said etalon and said semiconductor laser, respectively within a predetermined range by way of said substrate;

a circuit for obtaining a difference between a photoelectric current of said first optical detection means and a photoelectric current of said second optical detection means; and

a switch which switches the circuit from a temperature control loop to a wavelength control loop after setting an operating temperature of said semiconductor laser,

wherein said temperature control means controls the temperature of said etalon and said semiconductor laser so that the difference between a photoelectric current of said first optical detection means and a photoelectric current of said second optical detection means becomes zero or constant, when said switch switches the circuit from the temperature control loop to the wavelength control loop, and

~~it is arranged such that one part of light beams emitted from a laser luminous source is transmitted as a first optical beam through an etalon so as to be introduced into a first optical detection means while at least the other part of said light beams is~~

~~introduced into a second optical detection means without being transmitted through the etalon,~~

~~wherein the difference between said first and second optical beams is defined as a wavelength error signal, on the basis of the signal an oscillating frequency of the laser luminous source is maintained at a given value, wherein said laser luminous source and etalon are disposed on a substrate,~~

~~wherein, byway of the substrate a temperature control means for controlling a temperature of the etalon and the laser luminous source, respectively within a given range is provided,~~

wherein the shortest distance h from a fixed end surface of the etalon on the substrate to an optical axis of ~~said first luminous flux~~ a light transmitting through said beam splitter and said etalon ranges from ~~one-tenth~~ one-twenties fold through four fold of said light[[-beam]]'s beam radius a.

2. (Currently Amended) An optical module according to claim 1, wherein said etalon has a rectangular parallelepiped shape and said transmitted light partially ~~second flux~~ passes over an end surface opposite to [[a]] the end surface of the etalon provided on and in contact with the substrate~~, which surface is in contact with said substrate~~.

3. (Currently Amended) An optical module according to claim 2, wherein said h ranges from one-twentieth through twice of said light[[-beam]]'s beam radius a.

4. (Previously Presented) An optical module according to claim 2, wherein said h ranges from 3μm through 4mm.

5. (Cancelled)

6. (Currently Amended) An optical module according to claim 2, wherein the shortest distance h ~~a height of the etalon disposed on the substrate~~ ranges from 3 micron through 4mm.

7. (Previously Presented) An optical module according to claim l, wherein said substrate has a protrusive portion, on which portion the etalon is provided, and the said laser

luminous source is provided via a plate on the substrate except for said protrusive portion.

8. (Original) An optical module according to claim 1, wherein a cover is provided on the substrate such that said cover bridges over the etalon.

9. (Original) An optical module according to claim 8, wherein said cover is intended for approaching a temperature of said etalon to that of the substrate, and wherein the cover is brought into contact with both the substrate and the etalon.

10. (Currently Amended) An optical module according to claim 8, wherein an aperture is provided with said cover so as to enable said ~~first and second luminous fluxes~~ transmitted light to reach the first ~~and second~~ optical detection means.

11-12. (Cancelled)

13. (Currently Amended) An optical module according to claim 1, wherein said etalon has a rectangular parallelepiped shape, and said ~~second luminous flux~~ transmitted light partially passes along a surface adjacent to [[a]] the end surface of the etalon provided on and in contact with the substrate~~, and wherein the surface is in contact with the substrate~~.

14. (Cancelled)

15. (Currently Amended) An optical module according to claim 13, wherein the shortest distance h ~~a height of the etalon disposed on the substrate~~ ranges from 3 micron through 4mm.

16. (Currently Amended) An optical module, comprising:

a substrate;

a semiconductor laser;

a beam splitter which divided a light emitted from said semiconductor laser into a transmitted light and a reflected light;

an etalon through which the transmitted light from said beam splitter is transmitted, at least said semiconductor laser and said etalon being disposed on and in contact with said substrate;

a first optical detection means which receive the light transmitted through said etalon,

a second optical detection means which receive the reflected light from said beam splitter;

a temperature control means for controlling a temperature of said etalon and said semiconductor laser, respectively within a predetermined range by way of said substrate;

a circuit for obtaining a difference between a photoelectric current of said first optical detection means and a photoelectric current of said second optical detection means; and

a switch which switches the circuit from a temperature control loop to a wavelength control loop after setting an operating temperature of said semiconductor laser,

wherein said temperature control means controls the temperature of said etalon and said semiconductor laser so that the difference between a photoelectric current of said first optical detection means and a photoelectric current of said second optical detection means becomes zero or constant, when said switch switches the circuit from the temperature control loop to the wavelength control loop, and

~~it is arranged such that one part of light beams emitted from a laser luminous source is transmitted as a first luminous flux through an etalon so as to be introduced into a first optical detection means while at least the other part of said light beams is transmitted through the etalon so as to be introduced into a second optical detection means and that there is a difference within the etalon between an optical path length of the first luminous flux and the length of the second luminous flux,~~

~~wherein the difference between said first and second fluxes is defined as a wavelength error signal, on the basis of the signal an oscillating frequency of the laser luminous source is maintained at a given value,~~

~~wherein said laser luminous source and etalon are disposed on a substrate, by way of the substrate a temperature control means for controlling a temperature of the etalon and the laser luminous source, respectively within a given range is provided,~~

wherein the shortest distance h from a fixed end surface of the etalon on the substrate to an optical axis of ~~said first luminous flux~~ a light transmitting through said beam splitter and said etalon ranges from one-tenth fold through [[four]] two fold said light[[-beam]]'s beam radius a~~,~~

~~wherein the lower end of said etalon is fixed within the range of a/10<h<4a and a/20<h<2a~~.

17. (Currently Amended) An optical module according to claim 16, wherein ~~an optical path has~~ said transmitted light partially passes through said etalon along a first optical path and partially bypasses said etalon along a second optical path ~~in said etalon, and wherein through the first the first luminous flux passes while through the second optical path the second luminous flux passes~~.

18. (Original) An optical module according to claim 16, wherein said h ranges from 3 micron through 4mm.

19. (Currently Amended) An optical module according to claim 16, wherein the etalon disposed on the substrate has a rectangular parallelepiped shape~~, a height of the etalon ranges from one twentieth through four fold of a radius of the first luminous flux~~.

20. (Currently Amended) An optical nodule according to claim 16, wherein the etalon disposed on the substrate has a rectangular parallelepiped shape, ~~a height of which etalon~~ said h ranges from 3 micron through 4mm.

21. (Original) An optical module according to claim 16, wherein said substrate is provided with a convex portion, on which portion the etalon is provided, and except for the convex portion said laser luminous source is provided on the substrate via a table.

22. (Original) An optical module according to claim 16, wherein a cover is provided on the substrate such that said cover bridges over said etalon.

23. (Original) An optical module according to claim 22, wherein said cover is intended for approaching a temperature of said etalon to that of the substrate, wherein the cover is brought into contact with both the substrate and the etalon.

24. (Currently Amended) An optical module according to claim 22, wherein an aperture is provided with said cover so as to enable said transmitted light ~~first and second luminous fluxes~~ to reach the first ~~and second~~ optical detection means.

25. (New) An optical module comprising:

a substrate;

a semiconductor laser;

a beam splitter which divided a light emitted from said semiconductor laser into a transmitted light and a reflected light;

an etalon through which the transmitted light from said beam splitter is transmitted, at least said semiconductor laser and said etalon being disposed on and in contact with said substrate;

a first optical detection means which receive the light transmitted through said etalon;

a second optical detection means which receive the reflected light from said beam splitter; and

temperature control means provided underneath and in contacting with the substrate,

wherein the shortest distance from a fixed end of said etalon on said substrate to an optical axis of a light transmitting through said beam splitter and said etalon ranges from one-twenties fold through four fold of said light's radius.